

Training and Evaluation Outline Report

Status: Approved

02 Nov 2015

Effective Date: 19 Jan 2017

Task Number: 05-PLT-5106

Task Title: Install a Culvert

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the Fort Leonard Wood, MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	ATP 5-19 (Change 001 09/08/2014 78 Pages)	RISK MANAGEMENT http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp5_19.pdf	Yes	No
	NTRP 4-04.2.3/TM 3-34.41/AFPAM 32-1000	Construction Estimating (HTTPS://NDLS.NWDC.NAVY.MIL) https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x41_PH_Navy.pdf	Yes	No
	NTRP 4-04.2.5/TM 3-34.42/AFPAM 32-1020/MCRP 3-17.7F	Construction Project Management (HTTPS://NDLS.NWDC.NAVY.MIL) https://armypubs.us.army.mil/doctrine/DR_pubs/dr_aa/pdf/tm3_34x42_PH_Navy.pdf	Yes	No
	TM 3-34.48-1	THEATER OF OPERATIONS: ROADS, AIRFIELDS, AND HELIPORTS - ROAD DESIGN	Yes	Yes
	TM 3-34.62	Earthmoving Operations (MCRP 3-17.71)	Yes	No
	TM 3-34.63	PAVING AND SURFACING OPERATIONS	Yes	No

Conditions: The element is directed to install a culvert. The element is currently conducting operations in support of higher Headquarters (HQ). The higher HQ Operation Order (OPORD), construction directive, plans, specifications, and Standard Operating Procedures (SOP) are available. Higher HQ analysis of the Area of Operations (AO) is available. All necessary personnel, tool and equipment assigned by Table of Organization and Equipment (TOE) are available and Fully Mission Capable (FMC). The element must perform the task within the time indicated in the construction directive or OPORD. Coalition partners, noncombatants, and media may be present in the operational environment. All environment conditions must be considered while conducting the task. The element is not likely to be attacked.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element installs the culvert in accordance with (IAW) specifications and requirements found in SOP and directives provided by higherHQ or Commander.

Note: Leaders are defined as the Commander, Executive Officer, First Sergeant, Operations Sergeant, Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire Required: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess	
Operational Environment			Training Environment (LV/C)	Training/Authorized % of Leaders Present at	% of Soldiers Present at	External Eval	% Performance Measures 'GO'	% Critical Performance Measures 'GO'	% Leader Performance Measures 'GO'	Task Assessment
SQD & PLT										
Dynamic (Single Threat)	Day	IAW unit CATS statement.		>=85%	>=80%	Yes	>=91%	All	>=90%	T
				75-84%			80-90%		80-89%	T-
65-74%				75-79%	65-79%	<All	<=79%	P		
60-64%				60-74%	51-64%			P-		
<=59%				<=59%	<=50%			U		

Remarks: None

Notes: None

Safety Risk: Low

Task Statements

Cue: None

DANGER

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

NOTE: Assess task proficiency using the task evaluation criteria matrix.

STEP/MEASURE	GO	NO-GO	N/A
+* 1. The element leader conducts Troop Leading Procedures (TLP).			
+ a. Conducts preliminary construction planning.			
b. Requests augmentation support if required.			
+* 2. The element leader conducts detailed project planning.			
+ a. Conducts a site visit.			
(1) Selects the appropriate location for the culvert.			
(2) Calculates the runoff estimate.			
(3) Calculates culvert requirements.			
+ b. Selects equipment best suited for the mission.			
+ 3. The element establishes work site security.			
+ 4. The element prepares the culvert site.			
+ a. Identifies the location for the culvert and ensures culvert follows an established drainage channel.			
+ b. Ensures that the culvert invert elevation is at or below the bottom of the existing natural drainage channel or ditch.			
+ c. Ensures that the culvert slope is at a minimum of 0.5 percent; the desired slope is 2 to 4 percent.			

WARNING

+ 5. The element installs the culvert.			
+ a. Ensures that the ditch has no standing or running water in it when installation begins; the culvert bed is placed and compacted in and the minimum depth of the bed is one-tenth of the culvert diameter.			
b. The element assembles the culvert if required.			
+ c. Places and compacts the cover.			
d. Constructs the upstream headwall using sandbags, timber, or rock.			
e. Constructs the downstream headwall, if time permitted. If no downstream headwall is constructed, extending the culvert to a minimum of 2 feet beyond the toe of the slope is required.			
+* 6. The element leader submits status reports to higher HQ according to the unit SOP.			

TASK PERFORMANCE / EVALUATION SUMMARY BLOCK							
ITERATION	1	2	3	4	5	M	TOTAL
TOTAL PERFORMANCE MEASURES EVALUATED							
TOTAL PERFORMANCE MEASURES GO							
TRAINING STATUS GO/NO-GO							

ITERATION:	1	2	3	4	5	M
------------	---	---	---	---	---	---

COMMANDER/LEADER ASSESSMENT: T P U

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s): None

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
1.	71-CO-5100	Conduct Troop Leading Procedures for Companies	71 - Combined Arms (Collective)	Approved
3.	05-PLT-3006	Establish Work Site Security for a General Engineering Mission	05 - Engineers (Collective)	Approved
6.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved
71-CO-8505	OPFOR Execute Reconnaissance	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-12N-1004	Interpret Construction Survey Stakes	052 - Engineer (Individual)	Approved
	052-12N-4001	Manage a Horizontal Construction Project	052 - Engineer (Individual)	Approved
	052-210-1005	Manage Projects Using TCMS and MS Project	052 - Engineer (Individual)	Approved
	052-210-1016	Manage the Installation of Culverts	052 - Engineer (Individual)	Approved
	052-253-1206	Backfill an Area Using a Small-Emplacement Excavator (SEE)	052 - Engineer (Individual)	Approved
	052-256-3020	Interpret a Construction Print	052 - Engineer (Individual)	Approved
	052-256-3042	Direct Drainage Operations	052 - Engineer (Individual)	Approved
	052-256-3046	Direct Compaction Operations	052 - Engineer (Individual)	Approved
	052-256-3047	Direct Scoop Loader Operations	052 - Engineer (Individual)	Approved
	052-256-3048	Direct Utility Tractor Operations	052 - Engineer (Individual)	Approved
	052-256-3049	Direct Crane Operations	052 - Engineer (Individual)	Approved
	052-256-4143	Schedule Work in a Construction Project	052 - Engineer (Individual)	Approved
	052-306-7101	Direct Construction Site Reconnaissance	052 - Engineer (Individual)	Approved
	052-IC4-1038	Install Hook Block	052 - Engineer (Individual)	Approved

Supporting Drill(s): None**Supported AUTL/UJTL Task(s):**

Task ID	Title
ART 4.1.7.2	Enable Logistics

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
W91074	Tractor Wheeled IND: Diesel W/Backhoe W/Loader W/Hydraulic Tool Attachment (CCE)	1
E27860	EXC HYEX JD330LCR MUL	1
H53576	High Mobility Eng Excavator (HMEE): Type I	1

Material Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.